UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,861	12/27/2001	Robert E. Beach	SBL00798-C01	9518

22917 7590 07/26/2010

MOTOROLA, INC.
1303 EAST ALGONQUIN ROAD
IL01/3RD
SCHAUMBURG, IL 60196

EXAMINER	
SHEDRICK, CHARLES TERRELL	

ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
07/26/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing.US@motorola.com

Office Action Summary	Application No.	Applicant(s)	
	10/033,861	BEACH ET AL.	
	Examiner	Art Unit	
	CHARLES SHEDRICK	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 July 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *24-29,32-35 and 41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *24-29,32-35 and 41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application.
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 4/16/10 have been fully considered but they are not persuasive.

2. **Applicant argues:** that the prior art is missing at least the elements of; a) prioritizing packets based upon the total number of packets present, b) prioritizing packets in the order received, c) network management packets, and d) network management packets having a higher priority than other packets. Inasmuch as the prior art is missing these many elements, applicants believe that the amended independent claims are patentable and non-obvious.

Further, regarding claims 26-27 and 32-33, although Diepstraten does disclose (col. 7 lines 4-5) a contention window that can change its size, it does not disclose two contention windows, and therefore could not have envision using one window for voice traffic and the second window for data traffic, and further could not have envisioned the voice window being smaller than the data window.

Accordingly, applicants respectfully submit that the prior art is missing at least the additional elements of; e) two contention windows, f) using one window for voice traffic and the second window for data traffic, and g) the voice window being smaller than the data window.

1. **Priority based on order received by the AP:**

   a. Diepstraten teaches in **the abstract** that the method of accessing a communication medium allows for isochronous **(i.e., packetized-voice – see col. 1 line 44-45)** and asynchronous **(e.g., other packets)** communication traffic to share the same

medium and the same transceivers of a plurality of communication stations that communicate by way of a base station **(i.e., an Access Point)**. *The base station controls the communication between communication stations and generates regular timing periods in which isochronous traffic is sent to the stations with a higher priority than any asynchronous traffic pending at the beginning of each timing period.* Once the **initial isochronous traffic (i.e., first)** has accessed the medium, any further isochronous traffic retains access to the medium so that the asynchronous traffic can only occur in that part of the frame period remaining **after the isochronous traffic (i.e., second, subsequently, afterwards)** has accessed the medium.

b. The Examiner respectfully submits that on the onset the Prior art indicated that voice is sent with a higher priority than other packets. If a voice packet is received before other packets the voice packets are given priority to the medium (i.e., the other packets will not content until the voice traffic is handled based on priority).

2. Priority and medium access contention window:

a. Diepstraten teaches in col. 2 lines 15-34 the steps of (1) generating uniform timing periods in the base station **(i.e., contention windows)**, (2) accessing the medium each period with at least one isochronous packet from the base station with a higher access priority than any asynchronous packets pending at the commencement of each timing period, (3) delaying any asynchronous packets in each timing period until the at least one isochronous packet and any isochronous

traffic transmitted in response thereto have attempted access to the medium, and (5) accessing the medium for transmission of the asynchronous packets during the **remainder of each timing period (i.e., based on a uniform period the remainder is given the broadest reason interpretation such that the remainder of the contention period can be longer, shorter or equal**).

3. **Contention windows:**

   a. As noted in figures 2 and 3 timing diagrams based on CSMA/CA where information is sent on multiple time slots and more particularly within multiple contention windows during the duration of transmission- Applicant argues that multiple contention windows are not disclosed however, this would contradict the concept envisioned since at least two traffic types or periodically contending for medium access. Diepstraten teaches in col. 3 lines 10-16, As can be seen in FIG. 3, a station that intends to transmit asynchronous traffic is arranged to commence its **contention window** after an Asynchronous Inter-Frame-Space (AIFS), whereas a station that intends to transmit isochronous traffic can access the medium after a delay of IsocIFS, and as mentioned above, an ACK packet can access the medium after a delay of AckIFS.

4. **Total # of packets transmitted to receiver:**

   a. Diepstraten teaches in col. 6 lines 55-65, A base station, or communication station, that has asynchronous traffic to send, or that is arranged to communicate by way of asynchronous traffic, in the first embodiment of the invention, monitors the medium and interprets the isochronous DOWN packet 38 so as to

determine how many isochronous communication stations are addressed and thus how many isochronous UP packets 42, 44 will be produced in the frame period. The stations with asynchronous traffic can then adjust their AIFS delays to delay commencement of their contention windows to not less than the minimum gap plus m slots, where m is the number of isochronous UP packets 42, 44 that are to be transmitted. Thus, an asynchronous contention window does not then overlap with any of the isochronous access delay windows (**i.e., priority takes into account the number of packets in order to adjust the contention window**).

5. Filing Dates

a. The Effective filing date of Jorgensen = at least 7/9/1999

b. The Effective filing date of Regnier = at least 12/16/1999

c. Accordingly, both of the above noted qualifies as prior art.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims **24-29 and 32-35** are rejected under 35 U.S.C. 103(a) as being unpatentable over Diepstraten et al. US Patent No.: 5,329,531, hereinafter, "Diepstraten" in view of Jorgensen US Patent Pub. No.: 2007/0038751 A1, and further in view of Regnier et al. US Patent Pub. no.: 2005/0058147, hereinafter, 'Regnier'.

Consider claims 24 and 25 (**see arguments/further explanation noted above in addition to cited sections below**), Diepsraten teaches a Method and An access point that provides voice and data communications for use in a wireless local area network having a plurality of mobile units(**i.e., Iso-synchronous and Asynchronous Traffic)(e.g., see at least the abstract of disclosure and col. 2 lines 15-34**), said access point being configured to: receive signals carrying communications packets directed to particular mobile units(**e.g., see at least base stations and mobile stations noted with respect to figure 1**); prioritize said communications packets for transmission based on: whether a current packet is a voice communication packet(**i.e., iso vs asynch traffic)(e.g., see at least col. 2 line 15-col. 3 line 37**);

the total number of packets transmitted to each mobile unit**(i.e., see amount of data within available time and frame period)(e.g. see at least col. 2 line 15 -col. 3 lines 37 and col. 6 lines 60-65**); and the order in which the packets were received by the access point**(e.g. see at least col. 2 line 15 -col. 3 lines 37 and col. 6 lines 60-65)(i.e., packet sequence and priority**).

However, Diepratetenn does not specifically teach a network management packet and wherein the some packets are prioritized higher than the voice communication and the voice communication packet is prioritized higher than the other communications packet.

In analogous art, Jorgensen teaches teach a network management packet and wherein the network management packet is prioritized higher than the voice communication and the voice communication packet is prioritized higher than the other communications packet**(i.e., Latency sensitive traffic is given higher priority that various packets)(e.g., see at least paragraphs 0048- traffic types, paragraphs 0131-0132 – prioritize jitter sensitive traffic, 0164 – packets sensitive to latency, paragraph 0175, 0360 – prioritizing voice or data, paragraph 0411, paragraph 0485 – packet assigned based on priority in time slots, paragraphs 0486-0488**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Diepratetenn to include a network management packet and wherein the network management packet is prioritized higher than the voice communication and the voice communication packet is prioritized higher than the other communications packet for the purpose of optimizing latency of sensitive traffic flows as taught by Jorgensen.

However, Diepratetenn as modified by Jorgensen does not explicitly indicate that Network management packet with higher priority.

In analogous art, Regnier teaches that Network management packet with higher priority **(i.e., the higher priority can be assigned to network management packets for administrative purposes - paragraph 0029)**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Diepratetен as modified by Jorgensen to include where the network management packets have the higher priority over other packets including data and voice for the purpose of administrative type communication.

Consider **claims 26 and 32(see arguments/further explanation noted above in addition to cited sections below)**, Diepratetен teaches a method and a transmitter for use in a carrier sense multiple access communications system**(e.g., see at least abstract of disclosure)**, said transmitter being configured to: receive signals carrying communications packets directed to particular receiver units**(e.g., see at least base stations and mobile stations noted with respect to figure 1)**; prioritize said communications packets for transmission based on: whether a current packet is a voice communication packet**(i.e.,iso vs asynch traffic)(e.g., see at least col. 2 line 15-col. 3 line 37)**; the total number of packets transmitted to each receiver unit; and the order in which the packets were received by the transmitter**(e.g. see at least col. 2 line 15 -col. 3 lines 37 and col. 6 lines 60-65)**; and use a contention window of a first duration for transmitting packets that are for voice communications**(i.e., using a medium access procedure to share medium)(e.g. see at least col. 2 line 15 -col. 3 lines 37 and col. 6 lines 60-65)**; and use another contention window of a second duration that is different from said first duration for transmitting other packets**(i.e., see amount of data within available time, frame period** and **using a**

medium access procedure to share medium)(e.g. see at least col. 2 line 15 -col. 3 lines 37 and col. 6 lines 60-65).

However, Diepratetenn does not specifically teach a network management packet and wherein the some packets are prioritized higher than the voice communication and the voice communication packet is prioritized higher than the other communications packet.

In analogous art, Jorgensen teaches teach a network management packet and wherein the network management packet is prioritized higher than the voice communication and the voice communication packet is prioritized higher than the other communications packet(**i.e., Latency sensitive traffic is given higher priority that various packets)(e.g., see at least paragraphs 0048- traffic types, paragraphs 0131-0132 – prioritize jitter sensitive traffic, 0164 – packets sensitive to latency, paragraph 0175, 0360 – prioritizing voice or data, paragraph 0411, paragraph 0485 – packet assigned based on priority in time slots, paragraphs 0486-0488**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Diepratetenn to include a network management packet and wherein the network management packet is prioritized higher than the voice communication and the voice communication packet is prioritized higher than the other communications packet for the purpose of optimizing latency of sensitive traffic flows as taught by Jorgensen.

However, Diepratetenn as modified by Jorgensen does not explicitly indicate that Network management packet with higher priority.

In analogous art, Regnier teaches that Network management packet with higher priority (**i.e., the higher priority can be assigned to network management packets for administrative purposes - paragraph 0029**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Diepprateten as modified by Jorgensen to include where the network management packets have the higher priority over other packets including data and voice for the purpose of administrative type communication.

Consider claims **27 and 33 and as applied to claims 26 and 32(see arguments/further explanation noted above in addition to cited sections below)**, Diepstraten as modified by Jorgensen and further modified by Regnier teaches wherein the first duration is shorter than the second duration(**e.g., see at least col. 5 lines 6-16 and window size for time slots noted in at least col. 6 lines 56 - col. 7 line 7**).

Consider claims **28 and 34 and as applied to claims 26 and 32**, Diepstraten as modified by Jorgensen and further modified by Regnier wherein said transmitter is an access point of said communications system(**e.g., see at least context of base station in figure 1**).

Consider claims **29 and 35 and as applied to claims 26 and 32**, Diepstraten as modified by Jorgensen and further modified by Regnier teaches wherein said transmitter is a remote terminal in said communications system(**e.g., see at least context of station in figure 1**).

5. Claim **41** is rejected under 35 U.S.C. 103(a) as being unpatentable over Diepstraten et al. US Patent No.: 5,329,531, hereinafter, "Diepstraten" in view of Jorgensen US Patent Pub. No.: 2007/0038751 A1, and further in view of Regnier et al. US Patent Pub. no.: 2005/0058147, hereinafter, 'Regnier' and further in view of Tzeng US Patent No.: 6,438,135.

6. Consider claim 41 and as applied to claim 32, Diepstraten as modified by Jorgensen and further modified by Regnier teaches the claimed invention except transmitting packets in rounds, wherein in each round an equal number of packets is transmitted to each receiver unit.

However, in analogous art, Tzeng teaches transmitting packets in rounds (**i.e., round robin queuing – col. 1 line 20**), wherein in each round an equal number of packets is transmitted to each receiver unit (**e.g., same number of packets are sent from each queue – col. 1 lines 30-35**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Diepstraten as modified by Jorgensen and further modified by Regnier to include transmitting packets in rounds, wherein in each round an equal number of packets is transmitted to each receiver unit for prioritizing and shaping traffic in a well known fashion such as RR queuing as taught by Tzeng.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES SHEDRICK whose telephone number is (571)272-8621. The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles Shedrick/
Examiner, Art Unit 2617